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ABSTRACT

This pamphlet provides suggestions for school administrators concerning how to best use and interpret educational research. Research and evaluation can provide educational administrators with information necessary to make and justify decisions about programs, testing, and teacher performance. Administrators must remember that: abstracts and journal research notes do not provide enough information to allow assessment of research quality; political considerations, societal biases, and stereotypes can influence research and evaluation results; and not all studies are done well or accurately. Research can be, and has been, used to perpetuate inequality. Bias may be more subtle today than in the past, but it is still a factor. Research conducted on males is generally applied to females; research conclusions about white students is applied to people of color. Myths that must be examined include: (1) research and evaluation are objective and uninfluenced by societal attitudes and the views of the researchers/evaluators; (2) standardized tests are accurate and objective; (3) seeing is believing; and (4) research is of little value to administrators. In evaluating research, one must ask if: the researchers'/evaluators' opinions and biases are apparent; tests and measures are fair and appropriate; study populations are described; conclusions and recommendations come directly from the results; the study falls prey to the post hoc fallacy; implications are discussed for both sexes and minority students; and if the funding source has an interest to protect. Suggestions are provided for reducing bias in research. (SLD)

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Using, Abusing, and Understanding Research

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A Guide for Administrators

TM 015304

Research and Evaluation: Why Should Administrators Care?

As an administrator, you make educational decisions about both programs and people. Research and evaluation of the following areas will provide you with necessary information to make and justify those decisions:

- educational programs
- student testing
- teacher performance

Through research and evaluation, many things of value to administrators have been established, such as the following:

- Class size is important. Students in very small classes do noticeably better than students in classes of "average" size, while students in large classes do slightly worse.
- Children learn math and science best when they use physical objects and do hands-on experiments.
- A good preschool experience has a strong positive influence on the long-term development of children at risk, particularly boys.

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Research Caveats

When making decisions based on research and evaluation results, administrators need to remember that

- abstracts and journal research notes do not include enough information to allow the quality of the research to be assessed
- political considerations, societal biases, and stereotypes can (and often do) influence research and evaluation results
- not all studies are done well or even accurately

Bias and Past Research

While research can be a powerful tool for improving education, it can be, and has been, used to perpetuate inequality. The influence of racism and sexism on the research of the past can be seen in the "research" conclusions of well-known psychologists Arnold Gesell and G. Stanley Hall:

> [It is] well known that among the colored race there are many women who are supremely endowed with almost unique emotional equipment which makes their services ideal for infants and young children.
>
> *–Arnold Gesell, 1943*

> The woman who uses her brain loses her mammary function first and has little hope to be other than a moral and medical freak.
>
> *–G. Stanley Hall, 1905*

Bias and Today's Research

Today bias and its impact on research may be more subtle than in the past, but a look at current research conclusions finds that biases about people of color and women of all races still exist and influence researchers. For example, an analysis of studies of African Americans found that most researchers (82 percent) "blamed the victim," concluding that any differences experienced by African Americans were due to the shortcomings of the individuals rather than other possible explanations, such as racism or other societal factors. Programs based on such biased conclusions will be inherently flawed.

> Sex differences in achievement and in attitudes toward mathematics result from superior male mathematical ability.

This conclusion, from a well-publicized 1980 study by Camilla Benbow and Julian Stanley, was not based on the results of tests for genetic differences, including those related to sex. The conclusion owed more to the authors' opinions about boys' "natural" math abilities than it did to the research. Such conclusions can have a major impact, affecting, for example, educators' willingness to encourage girls to take advanced math courses.

And even today research done on males is generally applied to males and females, while that done on white students is applied to people of color as well as whites.

Research Myths and Realities

I. Research and evaluation studies are "objective," uninfluenced by societal attitudes and the authors' views of the world.

In actuality, neither the studies nor the people who do them are immune to societal influences, including racism and views of "appropriate" roles and behaviors for women and men. It is not easy to prevent our likes, aversions, hopes, and fears from affecting our conclusions.

II. Standardized tests are accurate and objective, providing information about students' interests, aptitudes, and achievement.

Like research in general, standardized tests can be valid or invalid, biased or fair. Tests need to be evaluated before being used or before their results are accepted.

III. Seeing is believing.

Bias influences what we see. For example, studies have found that people rate the same child differently depending on whether they are told the child is a girl or a boy.

IV. Research is of little value to administrators.

Although some administrators don't have access to research or see it as irrelevant, research can improve the decision-making process so long as unbiased studies of program and policy effectiveness are used.

Evaluating Research: Some Questions to Ask

1. Are the authors' opinions or biases obvious as you read the study? For example, if a study on parenting looks at "father absence" when men are studied but looks at "maternal deprivation" when women are studied, then bias is present.

2. Are the tests and measures used fair and appropriate? Were they developed and tested on females and males from a variety of racial backgrounds? If other measurement techniques, such as observations, were used, were any efforts made to control for bias?

3. Does the study describe who is being studied, including their race and sex? Were the students on whom a program was tested similar to those to whom you want to apply the results?

4. Do the study's conclusions and recommendations come directly from its results or are they based more on the authors' expectations?

5. Does the study fall prey to the post hoc fallacy? That is, does the study conclude that race or sex *caused* differences, when all that can accurately be said is that sex or race *was related to* any differences?

6. Does the study discuss the implications of its results for girls as well as boys, students of color as well as whites, students with disabilities as well as those without disabilities?

7. Who funded the research? Do they have an "ax to grind," as, for example, a publishing company funding a study of its textbooks might have?

Reducing Bias in Research: What You Can Do

1. Don't make educational decisions based on what "research says" until you check that research for bias and general accuracy.

2. When people give suggestions for policies or programs, see if they can provide unbiased research supporting their suggestions.

3. Remember to use the same criteria to assess studies with which you agree as you use to assess studies with which you disagree.

4. Use inservice training time or other opportunities to make teachers and counselors aware of any effects bias may have on research and evaluation.

5. Before hiring evaluators or researchers, check their awareness of ways to reduce the effects of bias, to ensure that their work for you will be as accurate as possible.

6. Encourage your professional organizations to develop and use guidelines to evaluate and reduce bias in research.

For More Information

Campbell, P. "Racism and Sexism in Research Methods." *Encyclopedia of Educational Research.* New York: Macmillan, 1983.

Ehrenreich, B., and D. English. *For Her Own Good.* Garden City, N.Y.: Anchor Books, 1979.

Thomas, A., and S. Sillen. *Racism and Psychiatry.* New York: Brunner/Mazel, 1972.

This brochure is one of a series written to acquaint people with bias in research. The brochures and *The Hidden Discriminator: Sex and Race Bias in Educational Research,* a nontechnical monograph on bias in research, are available from the Women's Educational Equity Act Publishing Center, Education Development Center, 55 Chapel Street, Newton, Mass. 02160, 800-225-3088 (in Mass. call 617-969-7100).

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